

ASSOCIATE ENGINEERING SPECIALIST

NATURE OF WORK

This is technical work in connection with any branch of engineering in the field and/or office.

Work involves various phases of the design, construction, record keeping and computer related work necessary to plan, construct and record engineering related projects. Work responsibilities may include one or more of the following: the performance of skilled drafting work, either manual or computer aided, in the preparation of complex and varied engineering drawings and plans; trainee level survey work as an instrument person; beginning level work in construction observation and construction material sample testing; installation and maintenance of traffic signs, markings, parking meters and traffic signals; Level I hardware and software support and troubleshooting. Direct supervision is received from a technical or administrative superior depending on the nature of the work being performed to assure conformance with instructions, quality and accuracy.

EXAMPLES OF WORK PERFORMED

Loads new additions and projects to the City area in electronic graphic engineering records; builds new additions into graphic records; identifies errors and/or omissions; uses geometric and trigonometric functions in constructing and labeling elements.

Maintains log of modifications to each electronic record file system in both written and electronic media; reviews periodically to insure integrity of electronic records.

Monitors and orders printing/plotting supplies; maintains record of supplies ordered and received; assists in printing operations.

Assumes responsibility for printing and plotting services to include providing a method of charging for plotting services; scheduling and performing preventative maintenance of equipment; researching new developments in printing, plotting and scanning; and providing training for users of plotting system.

Provides Level I technical assistance and trouble shoots problems for internal and external customers; assists in the preparation of cost and time projections.

Maintains cross-reference indexes in multiple formats; maintains drawing number assignment indexes; checks new microfilm for quality and completeness; assists others with retrieval of records.

Collects, summarizes, verifies and analyzes engineering data for all public infrastructures using manual or electronic media.

Conducts and analyzes manual and mechanical vehicle, pedestrian and bicycle counts.

Provides existing infrastructure data, policies and requirements.

Conducts various types of accident and traffic studies; develops and maintains signing and marking plans, and concept plans for geometric changes; maintains databases for existing traffic signal timing.

Inspects sidewalks and driveway approaches in the public right-of-way to insure they meet City standard specifications; serves as primary contact with contractors performing repair and construction.

Acts as beginning level observer, checking construction methods of various infrastructure components for compliance with plans and specifications; makes daily reports on work completed and work force.

Performs computer aided drafting of public infrastructure including fiber optics, paving and markings, storm drainage, automatic traffic control devices, water mains and wastewater discharge systems.

Uses specific software and/or hard copy to determine position, size, type and slope for the various infrastructure components.

Performs trainee level work as an instrument person, working toward the ability to perform in the capacity of experienced rodperson or chainperson.

Operates level or transit in performing routine location, topographic, cross section and related engineering/land survey work; transfers data to computer base.

Performs trainee level laboratory and field testing of asphalt, concrete, aggregates and soils; maintains a variety of records reflecting test results.

Installs and maintains traffic signs, markings, parking meters and traffic signals.

Performs related work as required.

DESIRABLE KNOWLEDGES, ABILITIES AND SKILLS

Knowledge of current engineering principles and practices, as well as familiarity with materials and equipment used.

Knowledge of a CAD program or ArcView GIS software.

Knowledge of spreadsheet, word processing, data base and e-mail software.

Knowledge of construction principles and practices, materials used, and tools and equipment common to the construction industry.

Knowledge of collection, summarization, verification and analysis of engineering data using manual or electronic media, e.g. manual/mechanical counts.

Knowledge of mathematics and science as applied to standard engineering and drafting duties.

Knowledge of electrical and electronic troubleshooting and repair.

Knowledge of AASHTO and ASTM test procedures.

Some knowledge of City, State and Federal roadway design standards.

Some knowledge of soil, concrete and asphalt testing.

Ability to provide printer/plotter troubleshooting.

Ability to create batch files, logging scripts and simple HTML documents.

Ability to understand and follow oral and written instructions.

Ability to perform precise survey work and reduce field notes.

Ability to establish and maintain effective working relationships with co-workers and the general public.

Ability to understand engineering documents.

Ability to communicate effectively both orally and in writing.

DESIRABLE TRAINING AND EXPERIENCE

Graduation from a senior high school or equivalent supplemented by college level course work in computer science, drafting or other civil engineering field, the electrical or electronic field; and experience with software installation/upgrade trouble shooting, drafting, surveying and/or related engineering work.

MINIMUM QUALIFICATIONS

Graduation from a senior high school or equivalent plus course work and/or some experience in computer science, drafting or other civil engineering field, the electrical or electronic field; and some experience with software installation/upgrade trouble shooting, drafting, surveying and/or related engineering work; or any equivalent combination of training and experience which provides the desirable knowledges, abilities and skills.

NECESSARY SPECIAL REQUIREMENTS

Completion of Novell NetWare Administrator class within six months of appointment to this classification or position if required by the position to which assigned.

Possession of a valid State of Nebraska driver's license when operating a vehicle may be necessary to the satisfactory performance of assigned duties for some positions within this classification.

Approved by: _____
Department Head Personnel Director

9/99

Revised: 11/2001

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